**Chapter: 9**

**Lesson Plan: A/B Day 1**

**Class:** Biology I (02, 03, 04, 06)

Lesson Duration: 90 minutes

## Student Objectives:

**Mendel**

9.1 Describe the pangenesis theory and blending hypothesis. Explain why both ideas are now rejected.

9.2 Explain why Mendel’s decision to work with peas was a good choice. Define and distinguish among true breeding organisms, hybrids, the P generation, the F1 generation, and the F2 generation.

9.3 Define and distinguish between the following pairs of terms: genotype versus phenotype, dominant allele versus recessive allele, and heterozygous versus homozygous. Also define a monohybrid cross and a Punnett square.

9.3 Explain how Mendel’s law of segregation describes the inheritance of a single characteristic.

9.4 Describe the genetic relationship between homologous chromosomes.

**Gene Technology**: To gain an understanding of gene thearapy, Stme Cell and Cloning. To be able to explain the pros and cons of each of these techniques and to objectively assess controversial subjects from both points of view

## Materials

PPT

WebQuest data – Stem Cell; Gene Therapy; and Cloning

Bikini Bottom Practice Worksheet

Chapter 9 Objectives

## Procedures

1. Distribute Chapter Objectives and Bikini Bottom WS
2. Discuss Spring Semester Syllabus
   1. Demo wiki web page for Spring Semesters Info
3. Lecture 9.1 – 9.4
4. Bikini bottom due next class session

## Home Work:

Work Chapter Objective 9.1 – 9.5

Read and take notes 9.1 – 9.5

Begin surfing the WebQuest

Key Term word study guide (Flash cards, foldables etc.)

## Vocabulary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ABO blood group | achondroplasia | **alleles** | amniocentesis | carriers |
| chorionic villus sampling (CVS) | chromosome theory of inheritance | codominant | complete dominance | **cross** |
| **cross-fertilization** | cystic fibrosis | dihybrid cross | **dominant allele** | Duchenne muscular dystrophy |
| **F1 generation** | **F2 generation** | genetics | **genotype** | hemophilia |
| **heterozygous** | **homozygous** | Huntington’s disease | **hybrids** | inbreeding |
| incomplete dominance | law of independent assortment | **law of segregation** | linked genes | **monohybrid cross** |
| **P generation** | pedigree | phenotype | pleiotropy | polygenic inheritance |
| **Punnett square** | **recessive allele** | recombination frequency | red-green color blindness | rule of addition |
| rule of multiplication | **self-fertilize** | sex chromosomes | sex-linked gene | testcross |
| **true-breeding** | ultrasound imaging |  |  |  |

Academic Standards:

B.1.21 Understand and explain that the information passed from parents to offspring is transmitted by means of genes which are coded in DNA molecules.

B.1.22 Understand and explain the genetic basis for Mendel’s laws of segregation and independent assortment.

* **What is the difference between Mendel’s Law of Segregation and Law of Independent Assortment?**
* **Explain Mendel’s experiment with the peas.**
* **KEY WORDS and PHRASES – monohybrid cross; dihybrid cross; segregation; independent assortment; Punnett squares; Mendel; filial; F1; F2; P2; 3:1; 9:3:3:1; homozygous; heterozygous; true-breeding; pure bred; self-pollination; cross-pollination;**

# Support Materials:

# <http://www.aw-bc.com/campbell/>

# Assessment:

Bikini Bottom 15pt

Quiz Day 3 on 9.1 – 9.9

**Reflection**: